Weather

2-3 The student will demonstrate an understanding of daily and seasonal weather conditions. (Earth Science)

2.3.4 Carry out procedures to measure and record daily weather conditions (including temperature, precipitation amounts, wind speed as measured on the Beaufort scale, and wind direction as measured with a windsock or wind vane).
Taxonomy level: 3.1-A Apply Factual Knowledge

Previous/Future knowledge: In kindergarten (K-4.2), students compared daily weather patterns. This is the first time that students have been introduced to procedures used to measure daily weather conditions. This concept will be further investigated in 4th grade (4-4.5) when students carry out procedures for data collecting and measuring weather conditions (including wind speed and direction, precipitation, and temperature) by using appropriate tools and instruments. In 6th grade (6-4.5), students will use appropriate instruments to collect weather data (including wind speed and direction, air temperature, humidity, and air pressure).

It is essential for students to carry out proper procedures to read, measure, and record daily weather conditions. Appropriate tools used to measure weather conditions are:

Temperature
- A *thermometer* is used to measure temperature.
- Thermometers record temperature in degrees Fahrenheit or degrees Celsius.

Precipitation
- A *rain gauge* is used to measure rainfall.
- A rain gauge measures in inches.

Wind direction
- A *wind sock* or *wind vane* is used to determine wind direction.
- The wind sock or vane will point in the direction from which the wind is blowing.

Wind speed
- A *Beaufort Wind Scale* is used to measure wind speed in miles per hour (mph).
- Visual clues are the essential comparisons.

Beaufort Scale	Wind speed	Description	Visual cues
0	1 mph	Calm winds	Smoke rises vertically
1	2 mph	Light winds	Smoke drifts
2	5 mph	Light breeze	Leaves rustle
3	10 mph	Gentle breeze	Lighter branches sway
4	15 mph	Moderate breeze	Dust rises. Branches move
5	21 mph	Fresh breeze	Small trees sway
6	28 mph	Strong breeze	Larger branches move
7	35 mph	Moderate gale	Trees move
8	42 mph	Fresh gale	Twigs break
9	50 mph	Strong gale	Branches break

10	59 mph	Whole gale	Trees fall
11	69 mph	Storm	Violent blasts
12	75+ mph	Hurricane	Structures shake

It is not essential for students to know how to measure air pressure or humidity conditions, to use other weather instruments, or memorize the Beaufort Wind Scale.

Assessment Guidelines:
The objective of this indicator is to *carry out* procedures to measure weather conditions; therefore, the primary focus of assessment should be to apply a procedure to the tool that would be needed to record weather measurements. However, appropriate assessments should also require students to *interpret* weather data collected with proper tools; *identify* tools that measure and record daily weather; *use* a Beaufort Wind Scale to identify weather conditions in a drawing or illustration; or *recall* the different types of weather conditions.